CLAIMS

1. In a process for removing water from a hydride or inert gas which comprises contacting said hydride or inert gas stream with an effective quantity of a drying agent under conditions for effecting adsorption of said water, the improvement which comprises:

utilizing a mixture of metal oxides comprised of at least one Group 1 metal oxide and at least one Group 2 metal oxide as a drying agent.

2. The method of Claim 1 where the mixture of metal oxides are dispersed on a porous support.

3. The method of Claim 2 wherein the Group 1 alkali metal oxide is selected from the group consisting of sodium, potassium, lithium and cesium oxide.

4. The method of Claim 3 wherein the Group 2 metal oxide is selected from the group consisting of calcium, magnesium, strontium, and barium oxide.

5. The method of claim 4 wherein the porous support has a surface area of at least 100 meters squared/gram.

6. The method Claim 5 wherein the support is alumina.

7. The method of Claim 4 wherein the activation temperature for forming the metal oxides is from 200 to 600 °C.

8. The method of Claim 4 wherein the drying agent is selected from the group consisting of K_2O/MgO and Cs_2O/MgO.

9. The method of Claim 4 wherein the mole ratio is from 0.1 to 10 moles of Group 1 alkali metal oxide to Group 2 alkaline earth metal oxide.

10. The method of Claim 9 wherein the mole ratio is from 0.3 to 5 moles of Group 1 alkali metal oxide to Group 2 alkaline earth metal oxide.

11. The method of Claim 10 wherein the loading of mixed metal oxides is from 10 to 90 % by weight of the combined support and metal oxide.

12. The method of Claim 10 wherein the loading of mixed metal oxides is from 30 to 40 % by weight of the combined support and metal oxide.

13. In a process for removing water from ammonia which comprises contacting said hydride or inert gas stream with an effective quantity of a drying agent under conditions for effecting adsorption of said water, the improvement for removing water from said ammonia, said water content of not greater than 500 ppm which comprises:

utilizing a mixture of metal oxides comprised of at least one Group 1 metal oxide and at least one Group 2 metal oxide as a drying agent.

14. The method of Claim 13 where the mixture of metal oxides are dispersed on a porous support.

15. The method of Claim 14 wherein the Group 1 alkali metal oxide is selected from the group consisting of sodium, potassium, lithium and cesium oxide.

16. The method of Claim 15 wherein the Group 2 metal oxide is selected from the group consisting of calcium, magnesium, strontium, and barium oxide.

17. The method of Claim 16 wherein the mole ratio is from 0.1 to 10 moles of Group 1 alkali metal oxide to Group 2 alkaline earth metal oxide.

18. The method of Claim 17 wherein the mixed metal oxides are selected from the group consisting of K_2O/MgO, K_2O/BaO, Na_2O/MgO, Na_2O/BaO, Cs_2O/MgO, Cs_2O/BaO, Li_2O/MgO and Li_2O/BaO.

19. The method of Claim 18 wherein the drying agent is selected from the group consisting of K_2O/MgO and Cs_2O/MgO.

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